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A note on amphi-pacific *Lysichitum*

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The genus *Lysichitum*, originally separated from the Linnaean *Dracontium* by Schott (1857), was thought to be a monotypic amphi-pacific genus until it was shown by Hultén and St. John (1931) that the western North American populations differ from the eastern Asiatic ones in several characters, the most evident ones being the colour of the spathe and the scent of the flowers. Since the authors were convinced that the American taxon could not be conspecific with *L. camtschatcense* (L.) Schott, as previously maintained, they distinguished it as the new species *L. americanum* Hultén & St. John. Although these taxa are doubtlessly of a common origin and must have dispersed through the Beringian region, they are nowhere sympatric at present. The northernmost localities of the Asiatic plant are in southern Kamtchatka, whereas those of the American plant are on the Kenai Peninsula, Kodiak Island and Sitka in Alaska.

Although both species have been cultivated in Botanical Gardens, almost no biosystematic information has been collected from such material so far. It is known, however, that some of the quantitative differences between these taxa reported by Hultén and St. John (l.c.) are not always as distinct when they are cultivated together, and hybrids seem to be easily and naturally formed in captivity. Whereas no detailed studies have been performed on such hybrids so far, there seem to be indications that the yellowish colour of the spathe of the American plant may be clearly dominant over the white spathe of the Asiatic taxon, but the strength of the odour is less easily evaluated, and so is also the inheritance of some of the other characters. Further studies on controlled hybrids are desirable before any conclusions can be drawn as to the number and inheritance pattern of genetical differences between these taxa.

The chromosome number of *Lysichitum* remained unknown until 1960, when Sokolovskaya reported the number $2n=28$ for material of *L. camtschatcense* from Sakhalin. The present writers are able to report the same tetraploid number

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for plants of *L. americanum* of western American provenience cultivated in the Montreal Botanical Garden. Hence, the two taxa do not exhibit differences in chromosome number. Although similarities in chromosome number are not conclusive evidence for close relationship (cf. Löve, 1960), this observation taken together with the ease with which these taxa hybridize in gardens perhaps indicates that they have been classified too highly when separated at the species level.

The amphi-pacific plants, of which *Lysichitum* is a typical example, seem to represent all stages of evolution, from that of taxa apparently identical on both sides of the ocean, to well defined species occupying areas now distinctly separated by a large gap in the Bering Sea region. It can be inferred from the distribution and differentiation of these plants that they have dispersed to their present ranges during different periods, although each and all must have occupied the Beringian region at some time. There are also indications that all these taxa may be true vicariads that can be expected to exhibit the same chromosome number on both sides of the ocean (cf. Löve, 1954, 1955). This is evident for the two taxa of *Lysichitum*, which have certainly differentiated gradually after their connecting populations in the northern Pacific area became extinct, perhaps even as late as during or immediately after the last glaciation.

The corresponding but older and historically perhaps more uniform group of amphi-atlantic plants have been intensely studied for more than half a century (cf. Hultén, 1958), mainly because of their significance for the discussions of survival of plants in northern regions during the Pleistocene glaciations. The amphi-pacific plants, however, have only been studied very preliminarily as a group, and even a comprehensive review of their occurrence is still lacking. It is to be hoped that this remarkable group soon will become a subject of combined geobotanical and biosystematic investigations, since such studies can be expected to reveal many facts of great importance to the understanding of the history of these plants in particular and of methods and principles of gradual speciation in general.

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摘 要

Lysichitum (または *Lysichiton*) 属は *L. camtschaticense* および *L. americanum* の 2 種より成る小さな属で、その分布域はそれぞれ北太平洋岸沿いに広がっている。両種は $2n=28$ の染色体を持ち、外部形態上の区別も簡単につく。しかし雑種ができるところよりみると、両種間の sterility barrier は幾分弱い。Sterility barrier をもって種集団を区別するという考え方は重要ではあるが、これには多様な現象が含まれており、現在の段階では機械的に論じすることはできない。北太平洋地域には種集団の分化という見地より検討すべき恰好の材料が数多くあることを附け加えておきたい。

□大窪昌章遺作 北村四郎, 村田 源考定解説: 本草摺影 京都書院 30cm 版 7,500 図版 250 図 600 (IV 1961) 江戸後期における名古屋の本草家大窪昌章遺作の一部を撰たく複製したもので、解説と名称考定がついているので当時用いられた名称と現在のそれとの変遷過程がわかる。また種ごとに学名が考定してある。またあるものについては先輩があてちがいをしていた事実も明かにされ、まことに類例のない興味深い珍刊行物である。(久内清季)

□A. Pilát: *Gasteromycetes* 864 pp. 256 figs. チェコスロバキア科学アカデミー 87.50 クラウン (1958)—K. Cejp: *Oomycetes* I 480 pp. 168 figs. 52.50 クラウン (1959) チェコスロバキア科学アカデミーの Novák の監修による Flora ČSR は 4 種に分れ A は藻類, B は菌類及地衣類, C は蘚苔類, D は其他となって居り B(1), B(2) がそれぞれ上記の書となっている。新しい Taxa が盛られて居り、チェコ語である点が苦手であるが多くの挿図とラテン語による属の記載及種の索引が役に立つ。(小林義雄)